Abstract. A three-year-old male African hedgehog was presented for a non-healing crusty proliferation on the left pinna. The lesion failed to respond to topical therapy and systemic antibiotic therapy. Whole body radiography and abdominal ultrasonography were within normal limits. The lesion was surgically removed. The patient recovered well from the procedure and remained in remission for nine months when he came back as an emergency case and died of an unrelated disease. The histopathology report enabled a diagnosis of completely excised cutaneous T-cell lymphoma. This report represents the first successful treatment of a cutaneous T-cell lymphoma in this species and might help to plan future therapies.

Cutaneous nodules or masses are often seen in hedgehogs and should be carefully evaluated. Papillomas, abscesses and neoplasias have been identified. Granulomatous subcutaneous nodules and lymphadenitis caused by Mycobacterium have been reported. Lymphosarcoma with peripheral lymphadenopathy is another differential. All lesions should be biopsied and cultured. In particular, neoplasias are very common in captive hedgehogs over 3 years of age, with most cancers occurring in females (1, 2). The most commonly reported histotypes are mammary neoplasms, squamous cell carcinoma of the oral cavity and lymphosarcoma (1-4).

Case History

A three-year-old male African hedgehog (Atelerix albiventris) was referred for dermatitis and a non-healing crusty lesion located on the left pinna. On physical examination, the patient was bright, alert and responsive, had a weight of 500 g and was well hydrated. The pet presented a 2 cm raised and crusty lesion on the left pinna, as well as a dermatitis localized on the head.

Anesthesia was induced with isofluorane (5%) in oxygen in a closed chamber and maintained at 2.5% with a face mask. Skin scrapings were performed to rule out cutaneous mite infestation, which were not found; however a mixed population of bacteria was found. The hedgehog was discharged with a therapy of enrofloxacin (10 mg/kg body weight, s.c.) and topical application of chlorhexidine for 10 days. Upon a follow-up appointment, the patient’s dermatitis was found to have resolved. However, the lesion of the pinna had evolved into a notched and erythematous plaque. Differential diagnoses for a similar appearance included papillomas, abscesses, mycobacterial infection or skin neoplasia (1, 5-11). The patient was again anesthetized with isofluorane and radiographs and abdominal ultrasonography examinations were performed. Imaging studies did not show any abnormalities and the pinna with 1 cm margins was excised, the wound was closed with an intradermal suture and the hedgehog was discharged on enrofloxacin (10 mg/kg body weight, s.c.) for 7 days. The excised biopsy tissue specimen was fixed in 10% buffered-formalin and paraffin embedded. Sections of 5 μm were stained with haematoxylin-eosin, haematoxylin-van Gieson, and PAS-haematoxylin. For immunohistochemistry, the avidin-biotin complex (ABC) method was applied. Antigen retrieval was performed on the slides by placing them in a bath of 10 mM citric acid, pH 6, and boiling for 16 min using an autoclave. The following primary antibodies were used: CD3, and CD79α (Dako, Carpinteria, CA, USA), that have been shown to cross-react with T- and B-cells in many animal species (12).

Results

The histopathological analysis revealed a dense subepidermal band-like infiltrate of lymphoid cells not forming germinative centers, with irregular nuclear...
contours and a spectrum of cell size. Some of the lymphoid cells infiltrated the epidermis (Figure 1A), as well as the cartilaginous structures (Figure 1B). Immuno-histochemical analysis showed that the majority of these lymphoid cells were T-lymphocytes (CD3+) (Figure 1C). Some B-lymphocytes (CD79-·+) were also present in the infiltrate (Figure 1D). The histopathological and immunohistochemical pattern described was suggestive of a cutaneous T-cell lymphoma.

The wound healed well and the cosmetic result was good. The hedgehog was re-examined on a three monthly schedule, including physical examination, radiographs and ultrasonography to rule out systemic spread. After 9 months, the hedgehog was brought in as an emergency case. The owner reported anorexia and reduced activity during the previous two days. At palpation, a large mass was identified in the abdomen, and diagnostic imaging studies showed a large obstructed bladder. The hedgehog was anesthetized in an attempt to remove the calculi that were causing urinary obstruction but died during the procedure. No evidence of tumor recurrence was noted during the emergency surgery nor at necropsy.

Discussion

To the best of our knowledge, this is the first description of a cutaneous T-cell lymphoma in an African hedgehog. In most of the reported cases, tumors were located in the intestine and were associated with systemic signs of disease such as chronic weight loss, dyspnea, anorexia, and ascites that ultimately led to death or euthanasia (1-4, 13). Of interest, either due to the indolent nature of the neoplasm or to timely surgical intervention, the outcome of our patient was favorable and systemic spread was prevented. In conclusion, lumps and bumps seen in hedgehogs should be considered suspicious and thoroughly investigated; in case of inconclusive diagnosis, excisional biopsy is warranted and, in case of neoplasia, may lead to early diagnosis and successful treatment.

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